ABSTRACT

A cost-effective method for reducing the dissolved sulfide content in a wastewater stream and thereby hydrogen sulfide emissions therefrom involving the steps of adding a transition metal salt to the wastewater stream at the upper reaches of a wastewater collection system prior to at least some hydrogen sulfide volatilization followed by addition of an oxidant to the wastewater stream to generate elemental sulfur and a transition metal salt which subsequently participates in additional hydrogen sulfide capturing steps, thereby also improving water quality and wastewater treatment plant operations.